

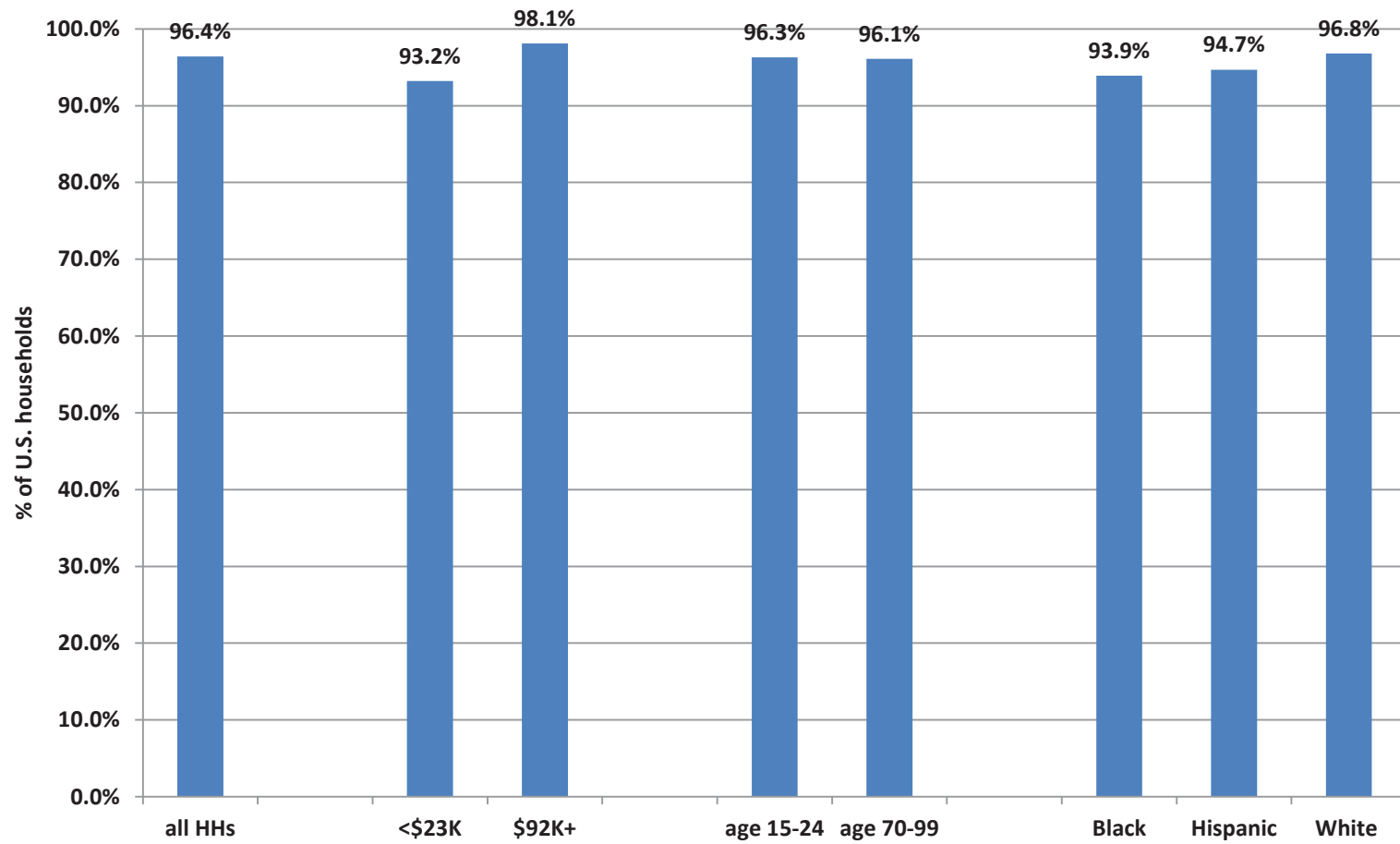
LIFELINE

Keeping Americans Connected by Respecting Consumers' Choices

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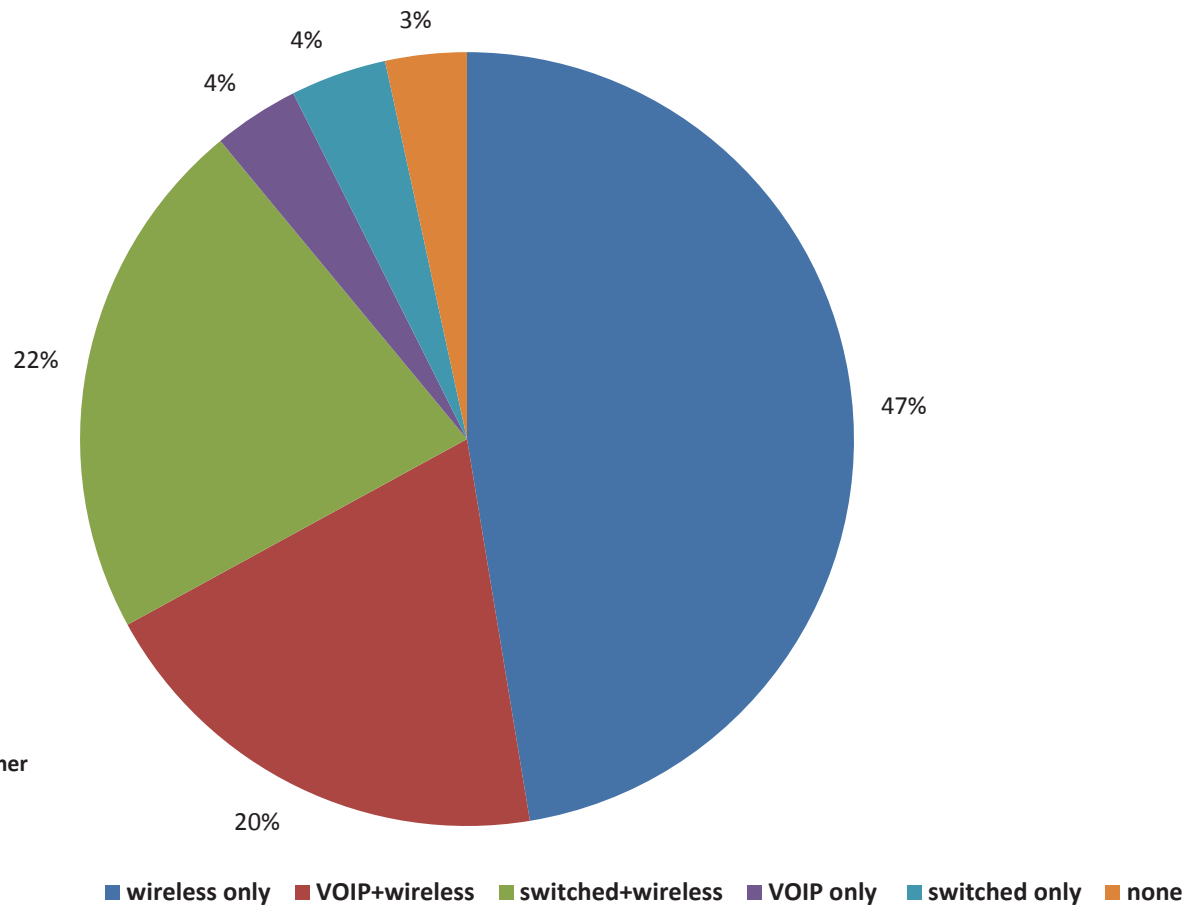
Voice penetration of U.S. households 2015



Source: FCC

Voice penetration by technology

(2015)



Sources: CDC, Oppenheimer

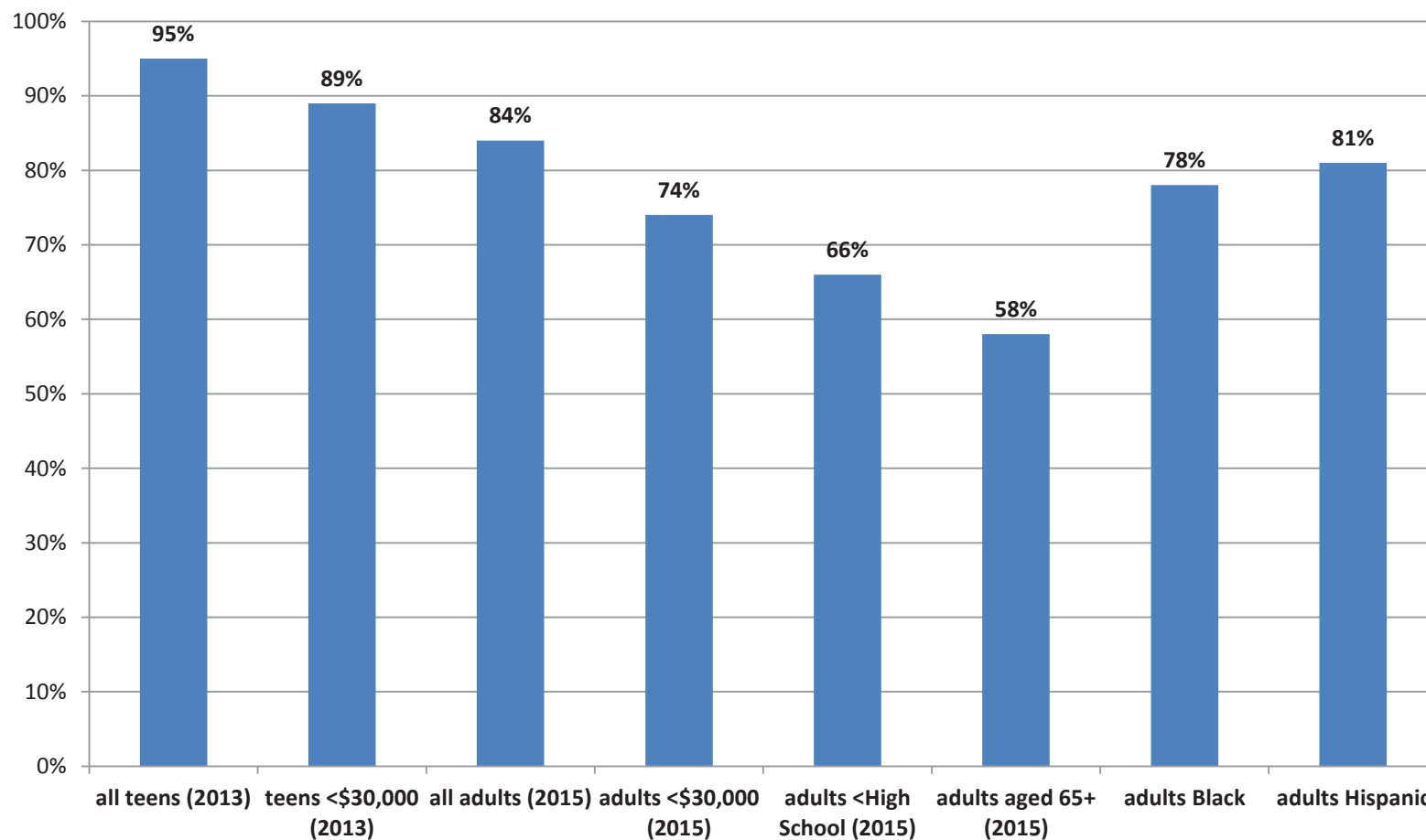
Voice is ubiquitous in the U.S.

- The FCC's latest *Universal Service Monitoring Report* shows that 96.4 of all U.S. households have voice service of some kind.
- The range for voice is relatively small, with 93.2% penetration of households that have income at or below \$23,000 v. 98.1% of households with income of \$92,000 or higher.
- Variation by age ranges from 96.1% to 97%, and by race from 93.9% to 96.8%.
- The latest CDC *Wireless Substitution Report* shows that 7.6% of households have wired-only (either VOIP or switched), 47.4% have wireless-only, and 41.6% have both. An Oppenheimer industry report shows that roughly half the wired lines are now VOIP.

There is more variation in Internet use

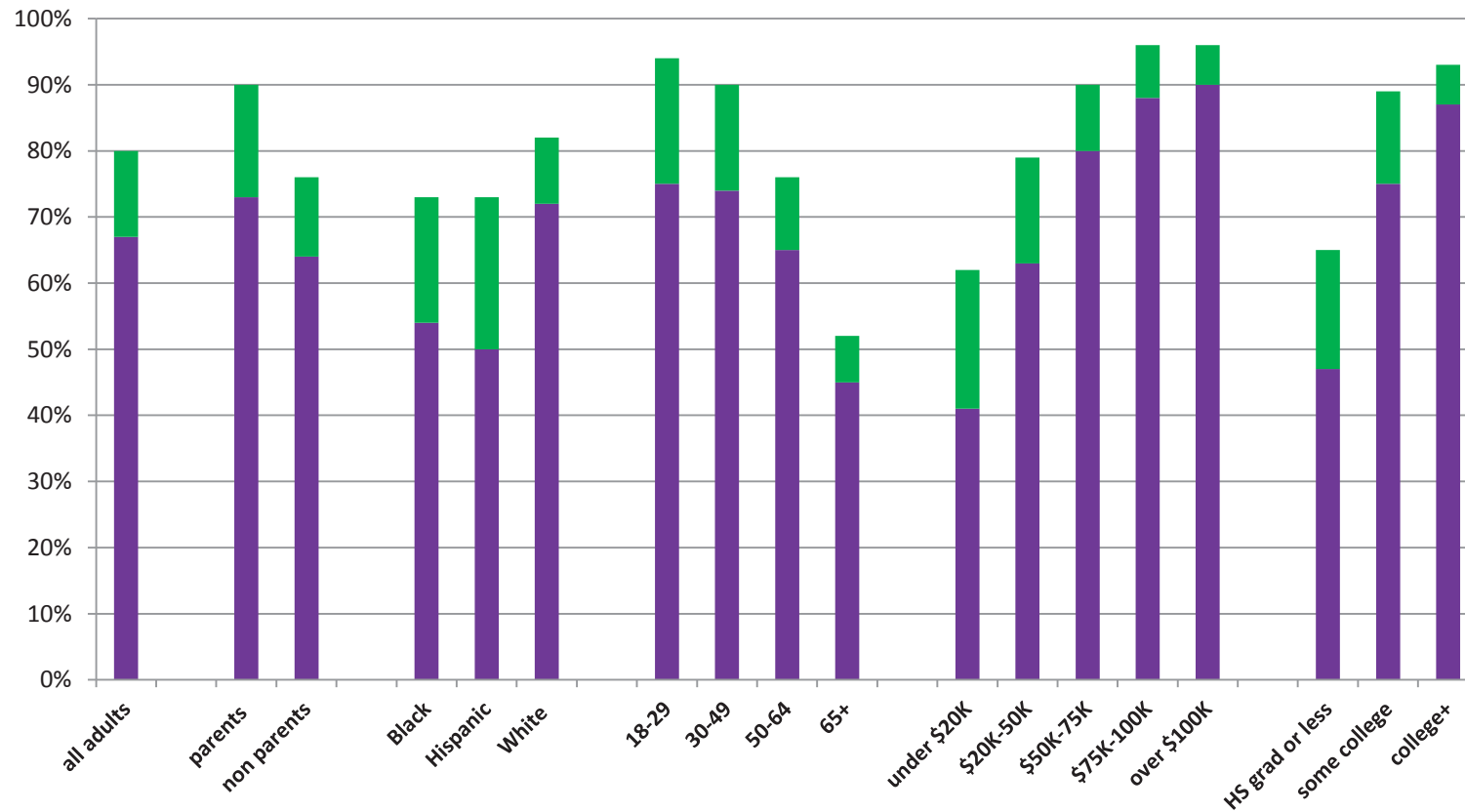
- **Teens use the Internet more than adults, especially older adults, and there is less variation by demographic categories among teens:**
 - According to Pew, in 2013 95% of teens were online. 74% used mobile access at least occasionally. For 25% mobile access was primary.
 - According to Pew, in 2015 92% of teens use the Internet on a mobile device daily and another 6% use it weekly. Teen ownership of smartphones and tablets has increased sharply in the last two years. Pew did not ask about fixed broadband in this survey.
- **For adults, Internet usage varies by age, level of education, and income (in that order) but varies relatively little by race or ethnic origin.**

Who uses the Internet?



Source: Pew

Who has broadband at home?



Source: Pew

■ fixed broadband ■ smartphone only

Home broadband may be fixed or mobile

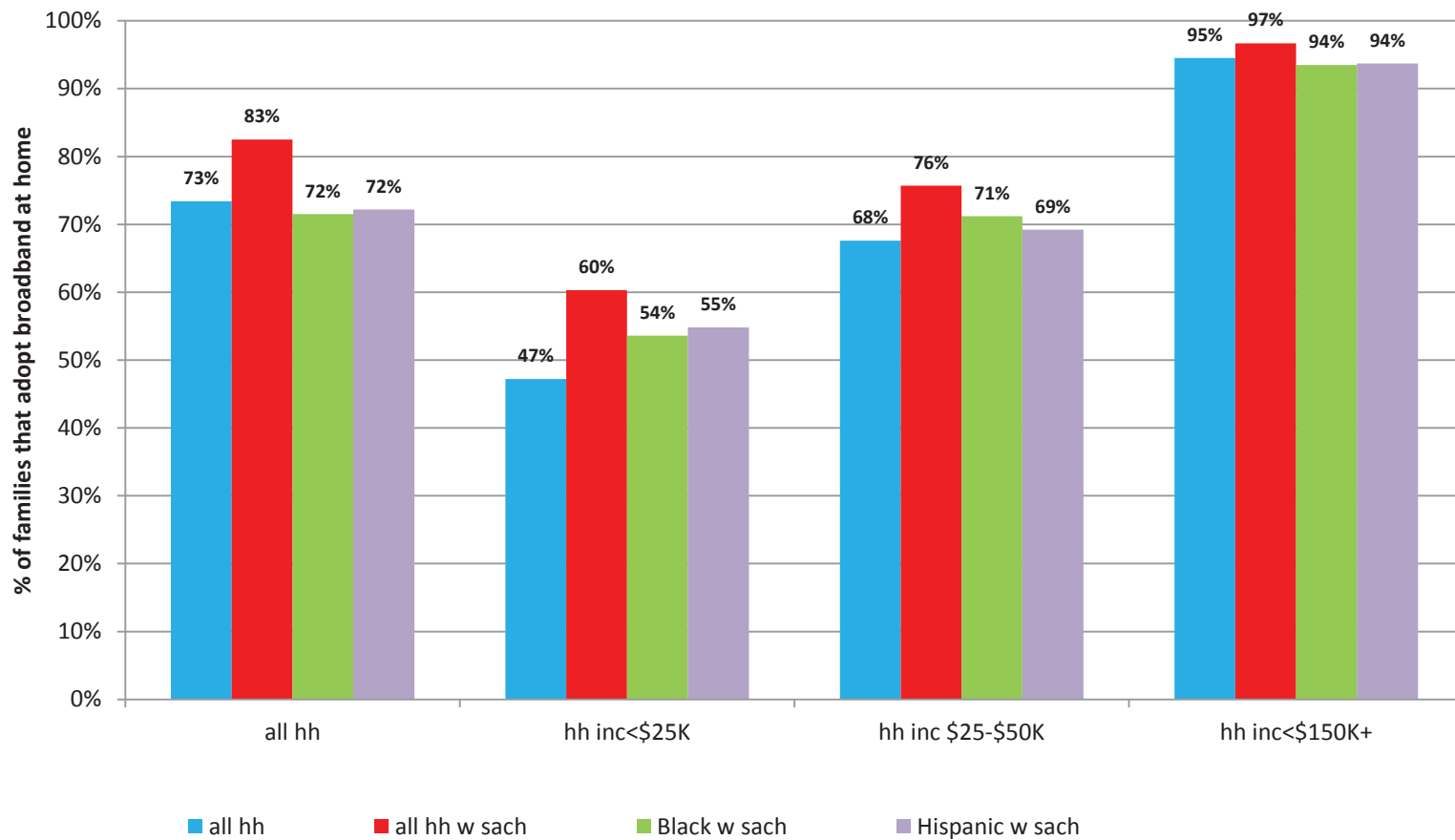
- **80% of adults have home broadband, either fixed or mobile**
- **Most likely to have home broadband: high income (96%), young (94%), college or more (93%), parents (90%).**
- **Least likely to have any broadband: age 65+ with only 45% likelihood of fixed broadband and 7% likelihood of smartphone.**
- **Most likely to have fixed broadband: income over \$75K (88+%), college or higher degree (87%)**
- **Most likely to have only smartphones: Hispanic (23%), income < \$20K (21%), Black (19%), young (19%), high school grad or less (18%), parents (17%).**

What is the homework gap?

- **A Pew study of 2013 Census data shows that:**
 - **Households with school-age children tend to have a higher than average rate of broadband adoption at all income levels.**
 - **Broadband adoption decreases sharply as household income decreases, both for households with and without school age children.**
 - **Among households with school-age children, broadband adoption rates are slightly lower within each income bracket for Black and Hispanic households.**

The homework gap

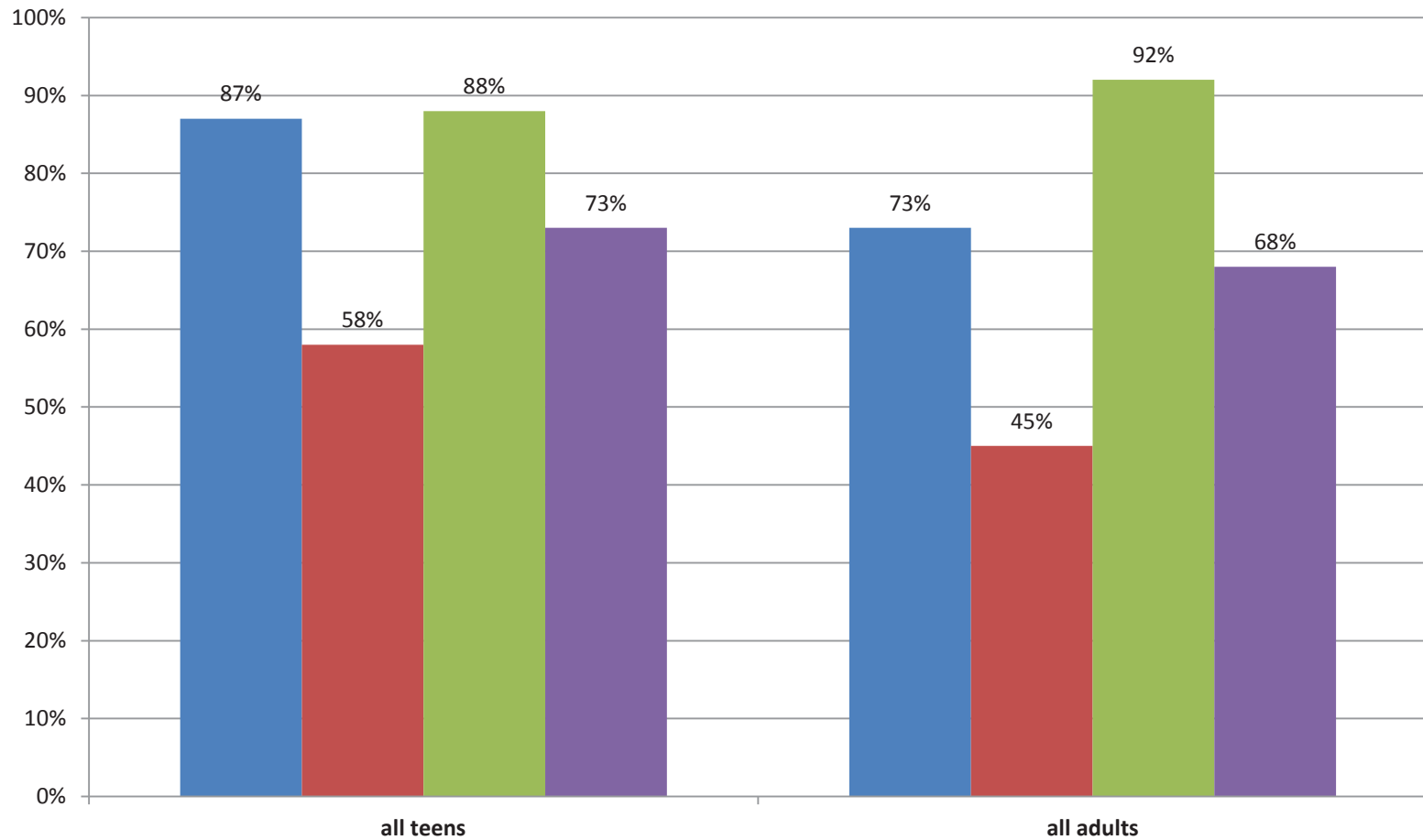
Broadband in families with school-age children (2013)



Sources: Census interpreted by Pew.

Note: sach means "with school-age children."

Teens have more devices than adults in 2015



Source: Pew

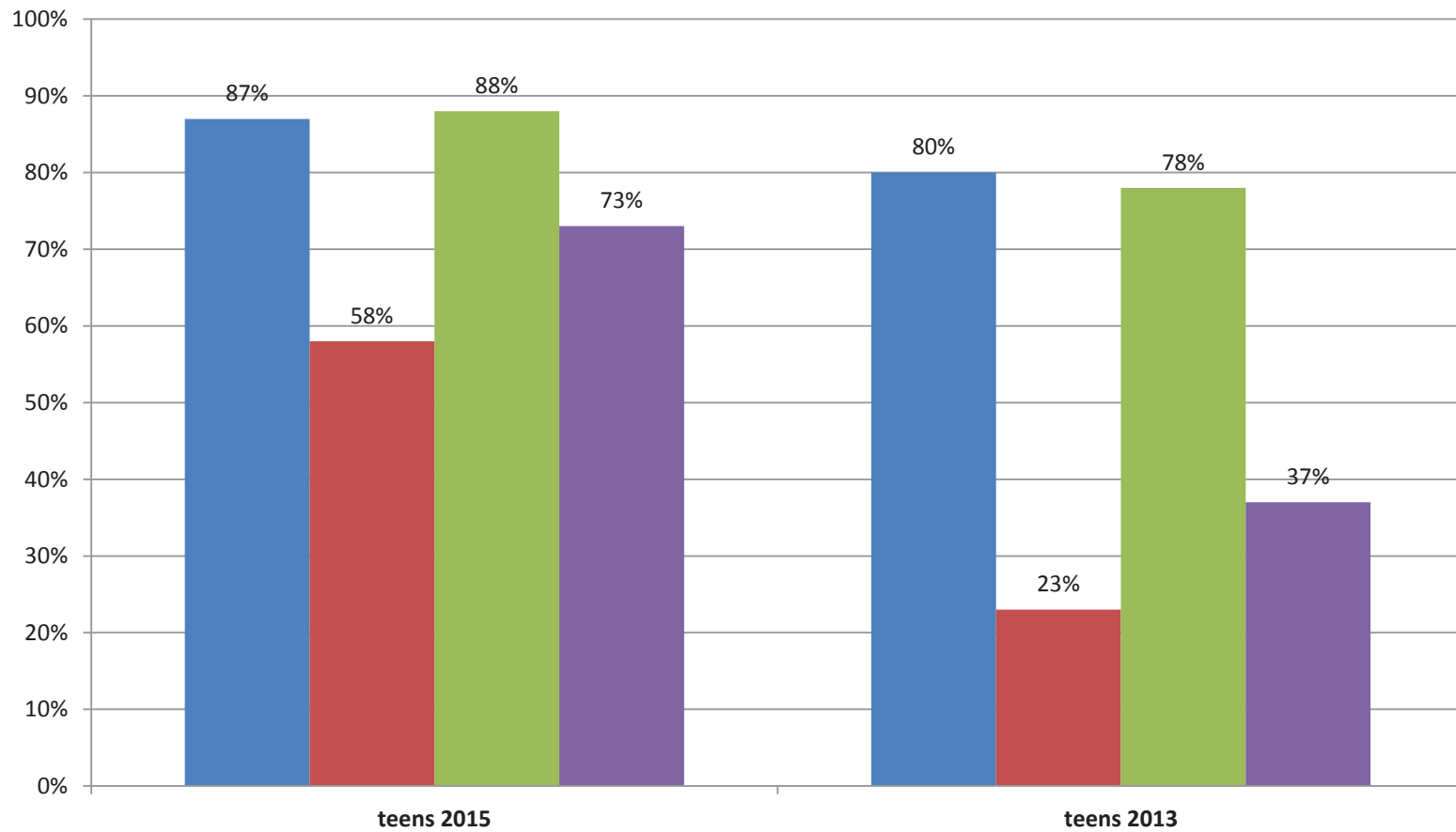
■ desktop/laptop

■ tablet

■ cellphone

■ smartphone

Teen wireless devices have increased sharply 2013-2015



Source: Pew

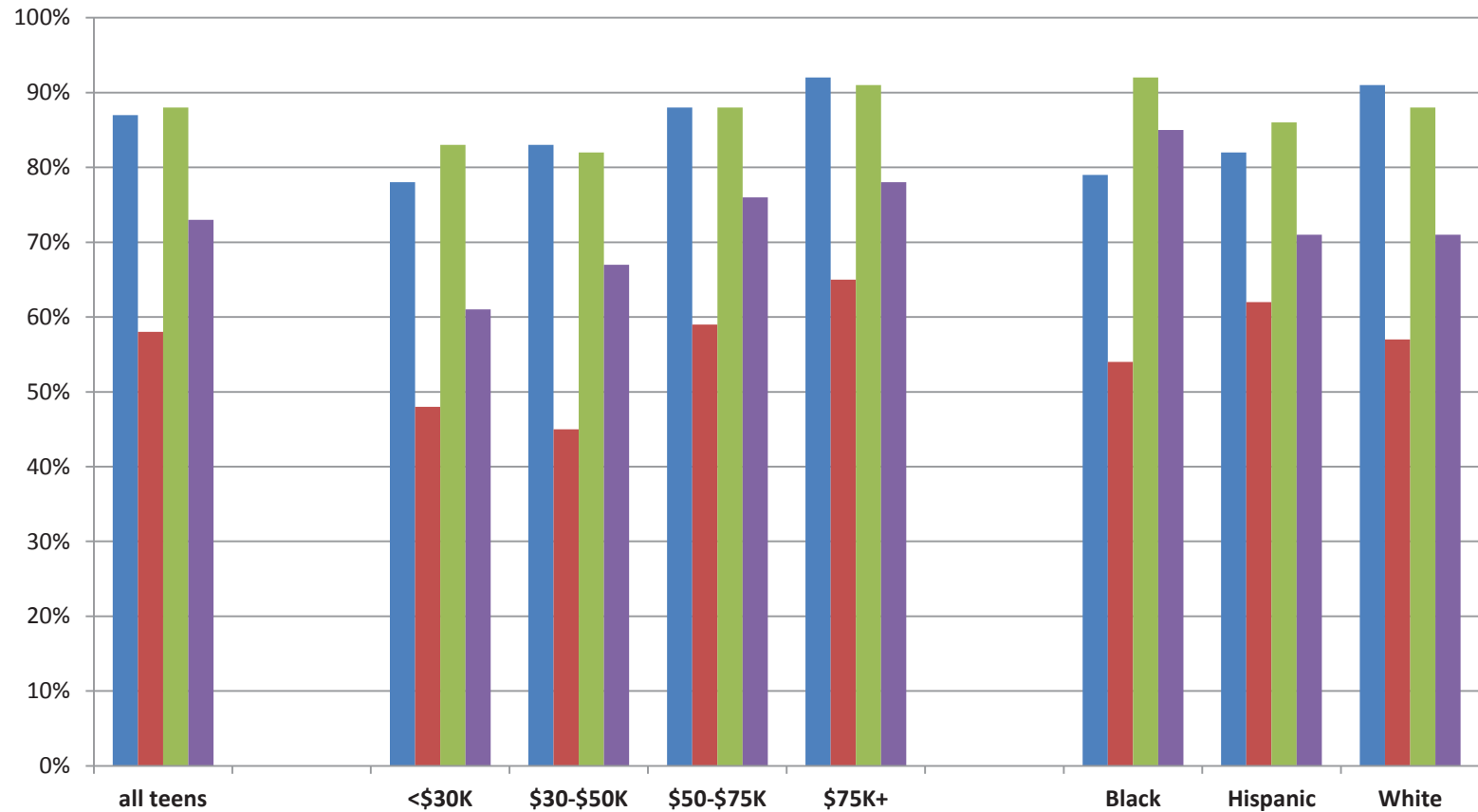
■ desktop/laptop

■ tablet

■ cellphone

■ smartphone

Demographics of teen devices 2015



Source: Pew

■ 2015 desktop/laptop

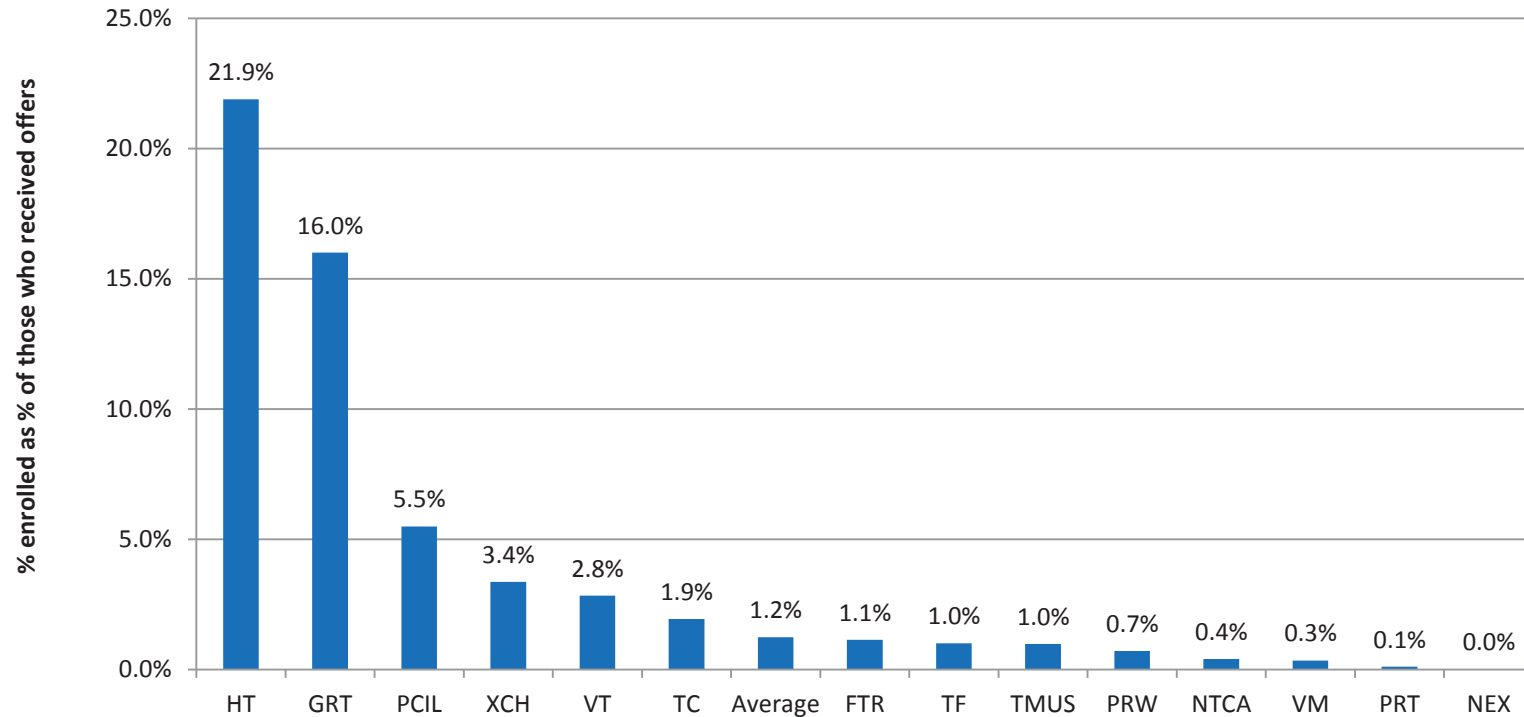
■ 2015 tablet

■ 2015 cellphone

■ 2015 smartphone

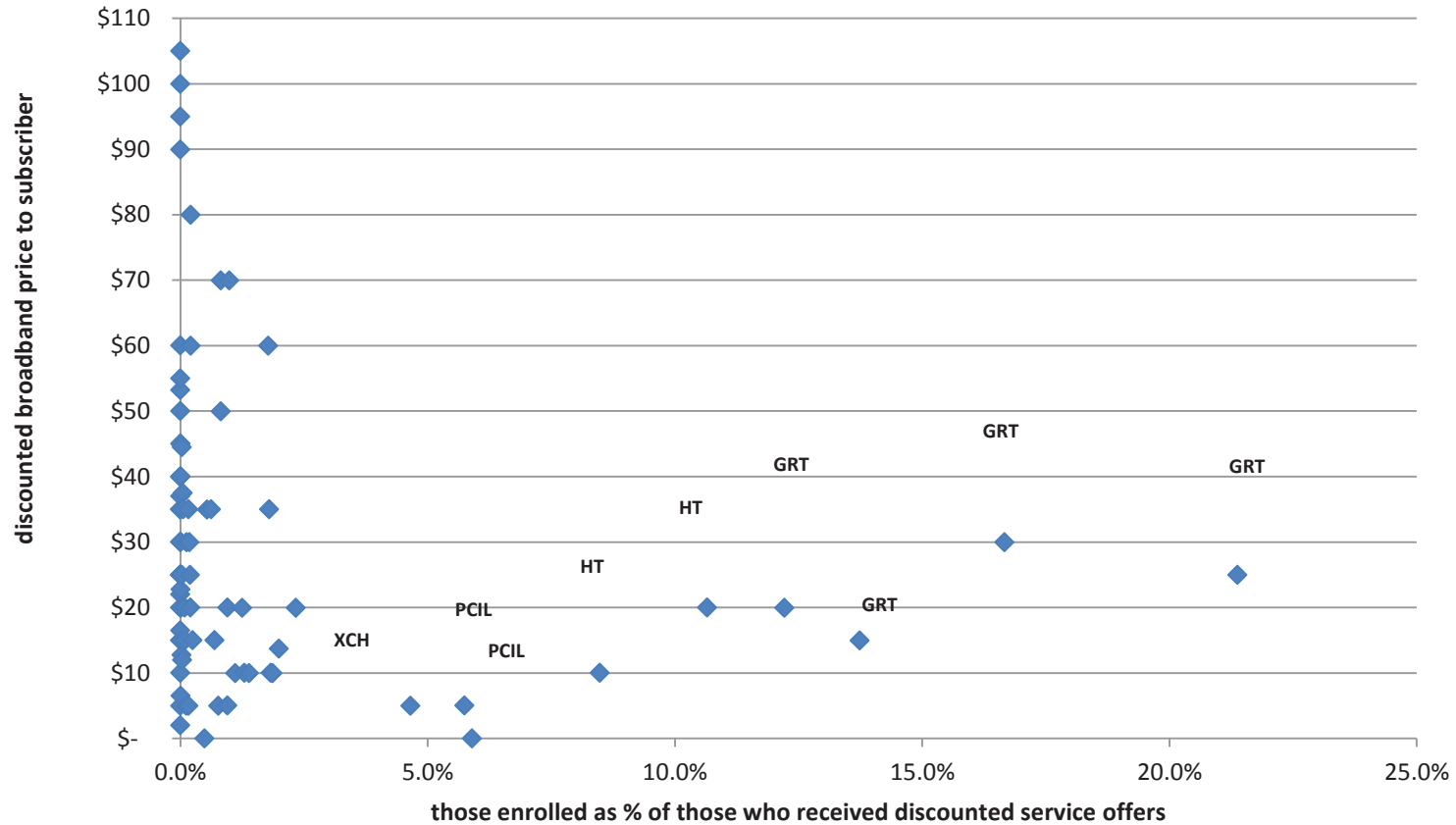
Broadband adoption is not just about price

FCC broadband-pilot take rates



Source: FCC pilot datasets, note: average excludes NEX

Broadband pilot enrollment by service-offer-price



Source: FCC pilot datasets

The FCC's tentative conclusion that it should maintain the non-tribal Lifeline discount at its current level is the most reasonable course.

- **The FCC conducted 12 trials in conjunction with various providers of fixed and wireless broadband.**
 - Vendors were: Hopi Telecommunications (HT), Gila River Telecommunications (GRT), Partnership for a Connected Illinois (PCIL), Xchange (XCH), Vermont Telecommunications (VT), Troy Cablevision (TC), Frontier (FTR), TracFone (TF), T-Mobile Puerto Rico (TMUS), PR Wireless (PRW), NTCA, Virgin Mobile (VM), Puerto Rico Telephone (PRT), Nexus (NEX).
- **The providers tested various discounts and other factors. They marketed to households that qualified for Lifeline and did not have broadband service (of the type being tested) at the time.**
- **Take rates were generally low, but there was an enormous range among vendors, from 0% to 22%.**
- **Most puzzling are the low take rates at the lowest prices. For example, of 55 offers at end-user prices between \$0 and \$30, 44% had no takers at all, i.e. a 0% take-rate.**

Pew confirms that for most non-adopters, service-price is not the key deterrent to broadband adoption

- **Pew found that 33% of those adults who lack a fixed-broadband connections cite service price, but there are significant variations.**
- **Among those who have never had the service and have no interest, only 25% cite service-price.**
- **Among those have a smartphone, 29% say the smartphone is all they need.**
- **This study did not explore other reasons, as had a 2013 Pew study that found variations on lack of skills and various concerns about the Internet were significant factors.**

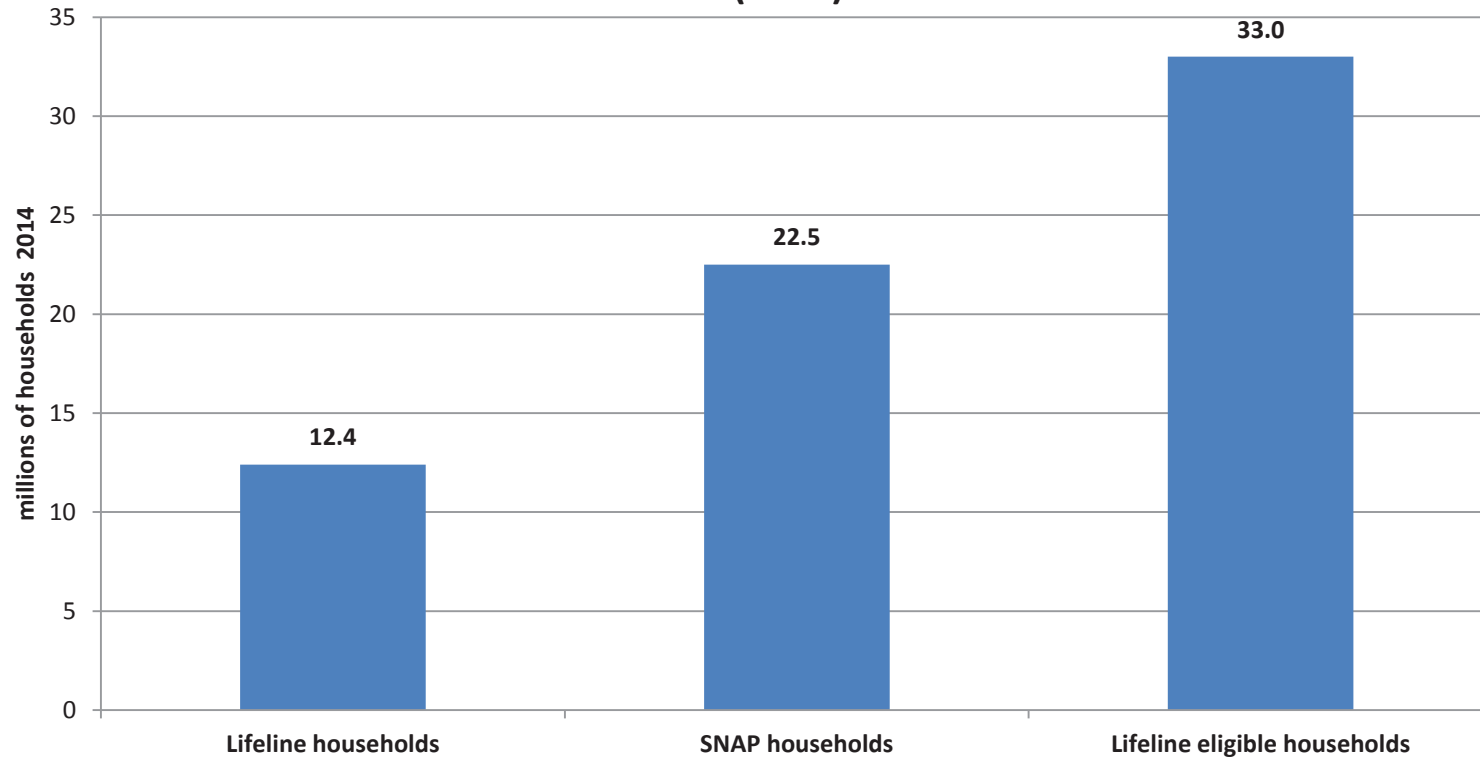
Lifeline provides a potential solution to the homework gap

As the FCC has tentatively concluded, Lifeline coverage should be expanded to broadband as well as voice. That would allow consumers to choose their preferred mode of communication, and would help low-income households with school-age children adopt broadband.

- In 2014, Lifeline provided \$1.6 billion to low-income households to help them stay connected. However, many qualifying households don't subscribe to Lifeline.**

Many eligible households do not enroll in Lifeline—why not?

(2014)



Sources: FCC, USDA

How can the FCC make Lifeline more consumer friendly?

- One possible model is a joint state-federal process like the one that has resulted in high participation rates for Supplemental Nutrition Assistance Program.
- In 2014, 47.4 million Americans were below the poverty level, and SNAP served 45.9 million Americans. While some qualified on other criteria, the match between eligibility and enrollment is much closer than that of Lifeline.
- A process that is not administered by the vendors of broadband communications services would allow Lifeline subscribers to choose among competing broadband providers, optimizing the value of the program to them and enhancing competition.
- Transition is needed to ensure that current recipients who need Lifeline are not stranded.

Other solutions to the homework gap?

Other solutions to the broadband-adoption gap?

- **More research to understand the influence of price and non-price factors on broadband adoption, especially by households with school-age children.**
- **Work with educators to make online learning effective.**
- **Given the popularity of wireless broadband, especially among low-income households and teens, more wireless spectrum is needed.**
- **Foster a regulatory environment which encourages investment in deployment of broadband.**

Other? To be continued in the work groups.

Sources

- Slide 2: Federal Communications Commission, *Universal Service Monitoring Report 2015*, Data Received Through September 2015.
- Slide 3: SJ Blumberg and JV Luke, *Wireless Substitution: Early release of estimates from the National Health Interview Survey*, January-June 2015, Centers for Disease Control and Prevention, National Center for Health Statistics, December 2015.
- Slide 3: Tim Horan, Jonathan Michaels, and Ray McDonough, *Industry Update with Changes: Communications 3Q15 Post-View*, Oppenheimer Equity Research—Communication and Cloud, November 20, 2015.
- Slide 5: Pew Research Center [hereafter referred to as Pew]:
 - Mary Madden et al, *Teens and Technology 2013*, March 13, 2013.
 - Amanda Lenhart and Dana Page, *Teens, Social Media & Technology Overview 2015*, April 9, 2015.
 - Andrew Perrin and Maeve Duggan, *Americans' Internet Access: 2000-2015*, June 26, 2015.
- Slide 6: Pew, Perrin and Duggan, 2015.
- Slides 7 and 8: Pew, John B. Horrigan, Lee Rainie, and Dana Page *Home Broadband 2015*, December 21, 2015.

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- Slides 9 and 10: Pew, John B. Horrigan, *The numbers behind the broadband 'homework gap,'* April 20, 2015.
- Slides 11, 12, and 13: Pew, Monica Anderson, Lee Rainie, and Dana Page, *Technology Device Ownership: 2015*, October 29, 2015. Also: Pew, Madden 2013, Lenhart and Page 2015.
- Slides 14, 15, and 16: Federal Communications Commission website, datasets and various reports for Lifeline-Pilot Trials.
- Slide 17: Pew, Horrigan et al, 2015.
- Slides 18 and 19: Federal Communications Commission, *Universal Service Monitoring Report 2015*, released December 2015.
- Slide 19: Federal Communications Commission, *Second Further Notice of Proposed Rulemaking, Order on Reconsideration, Second Report and Order, and Memorandum Opinion and Order*, in WC Dockets No. 11-42, 09-197, and 10-90, released June 22, 2015, footnote 234.
- Slides 18, 19, and 20: Kelsey Farson Gray and Shivani Kochhar, *Characteristics of Supplemental Nutrition Assistance Program Households: Fiscal Year 2014*, U.S. Department of Agriculture, 2015.
- Slide 21: Linda Darling-Hammond, Molly B. Zielenzinski, and Shelley Goldman, *Using Technology to Support At-Risk Students' Learning*, Stanford Center for Opportunity Policy in Education, September 2014.